

Patent Abstracts of Japan

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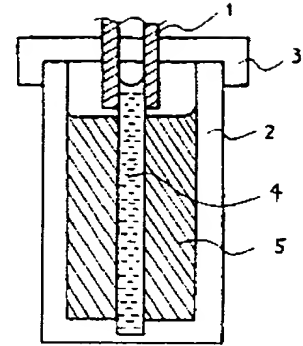
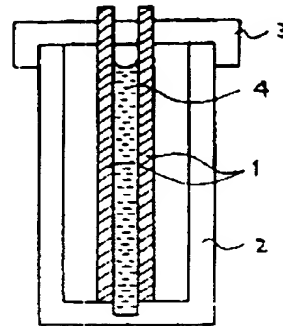
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APPLICANT : SEIKO EPSON CORP;

INVENTOR : MOTOKI MASANOBU;

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TITLE : PRODUCTION OF PREFORM FOR
QUARTZ BASED OPTICAL FIBER



ABSTRACT : PURPOSE: To readily obtain a high-quality preform for fibers in good yield even for a large diameter at a low cost, by gelatinizing the first sol to be a core part, gelatinizing the second sol to be a clad part, drying and sintering the resultant wet gel.

CONSTITUTION: A blend solution of ethyl silicate with absolute ethyl alcohol, water and NH_3 is allowed to stand and stabilized to give a fine silica particle solution (A) having $0.01\text{--}1\mu$ average particle diameter and good dispersibility. Hydrochloric acid is added to ethyl silicate and tetraethoxygermanium in an amount to give a given amount of GeO_2 is added to treat the ethyl silicate to prepare a colorless and transparent hydrolyzate solution (B) for a core. Furthermore, hydrochloric acid is added to treat ethyl silicate and give a hydrolyzate solution (C) for a clad. The first sol which is a blend solution of the solutions (A) with (B) prepared by blending to give 60.0% ratio of the fine silica particles in the solution (A) is cast into a cylindrical vessel 1 for the clad of a vessel having double cylindrical structure and gelatinized to give a gel 4. The vessel 1 is then removed to cast the second sol 2 which is a blend solution of the solutions (A) with (C) prepared by blending to give the similar ratio as described above into a cylindrical vessel 2 for the clad and gelatinized to give a gel 5. The resultant wet gel is then dried and sintered.

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